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Conference Abstract

Osteo Preparation Lab: Preserving the Smithsonian Tradition of Collections Access and Collections-based Research

Daniella Haigler ‡

‡ Smithsonian Institution, Suitland, United States of America

Corresponding author: Daniella Haigler (haiglerd@si.edu)

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Abstract

The National Museum of Natural History is committed to long-term stewardship of collections and to supporting their use by scientists and the general public. Smithsonian's Osteo Preparation Lab (OPL), in particular, maintains a long-standing tradition of collections access and collections-based research. This tradition of preparing and cataloging osteological specimens traces its origin to the beginning of the Smithsonian Institution itself. In the mid 1800's, James Smithson's legacy called for an Institution with a mission to pursue the "increase and diffusion of knowledge." Under Spencer Baird, that mission later evolved into a system called collections-based research. This system involved preparing and curating animal specimens for scientific research, which was particularly important for the emerging field of comparative anatomy of vertebrate skeletons.

Today, OPL staff work to catalogue and document vertebrate specimens, which contributes greatly to continuing the historic tradition of collections-based research done at Smithsonian Institution. The preparation and curation procedures of vertebrate specimens relies on the commitment of the OPL staff, as well as the use of dermestid colonies, composting, and other maceration techniques. The lab's sizeable space and state of the art necropsy equipment for large animal dissections are used on a regular basis by visiting scientists studying vertebrate anatomy. Additionally, the OPL is integrally involved in tissue

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collection from animal remains, which are held by the museum for research purposes in both collections spaces at the museum and our unique biorepository at the museum support center (MSC). In terms of collections access, the osteology specimens in the museum's research collections draw scientists from around the world. The research done on the specimens has resulted in many intriguing discoveries.

In terms of public engagement and access, the Smithsonian Institution can boast maintaining a three hundred year old exhibition on vertebrate osteology, which began in 1881. The "Osteology: Hall of Bones" provides visitors with an opportunity to examine the skeletons of a vast array of vertebrate species, ranging from minute birds to giant mammals. The display, while mirroring the selection of species found in the original exhibit from the nineteenth century, enhances the user experience through the integration of modern technologies, like the app "Skin and Bones." And so, despite the rather unpleasant smell and macabre nature of the work, the Osteo Prep Lab's activities are integral to both the public outreach and research activities of the Smithsonian Institution's National Museum of Natural History.

Keywords

Collections access, collections-based research, osteo preparation, vertebrate osteology, vertebrate anatomy, comparative anatomy, dermestid colonies, dermestes maculatus, biorepository

Presenting author

Daniella C. Haigler

Author contributions

John Ososky and Teresa Hsu